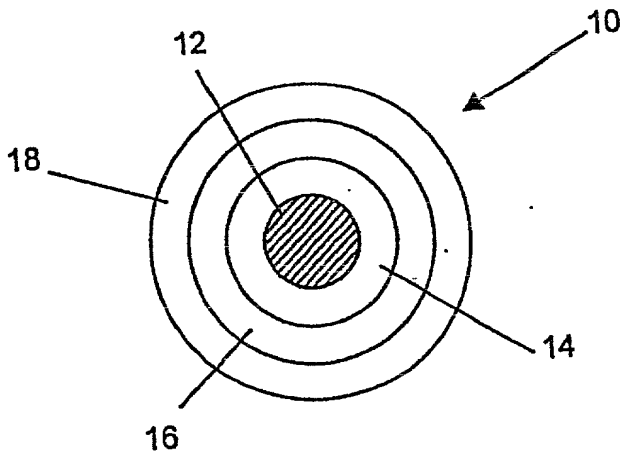


FIG. 1

Figure 2

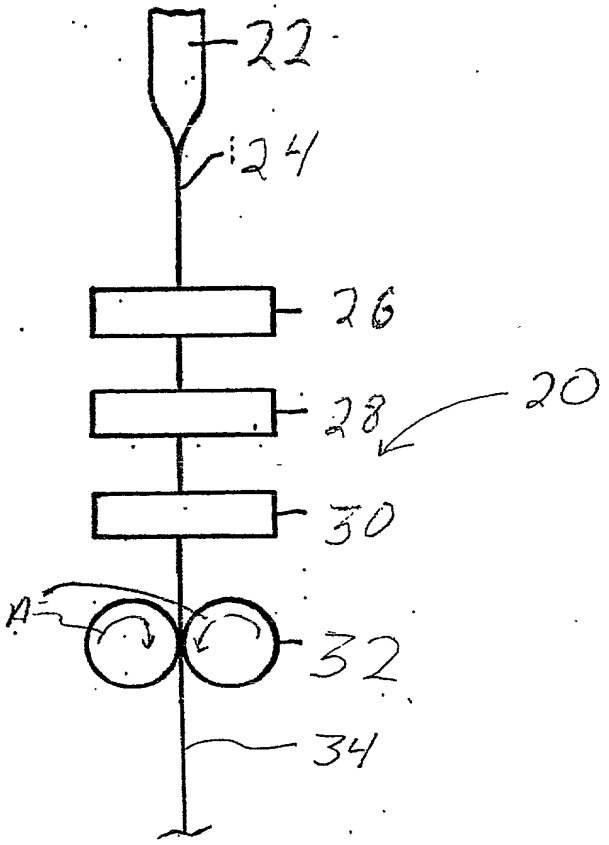


Figure 3. Effect of Additive Concentration on Aged Fiber Strength with Methacrylate Silane

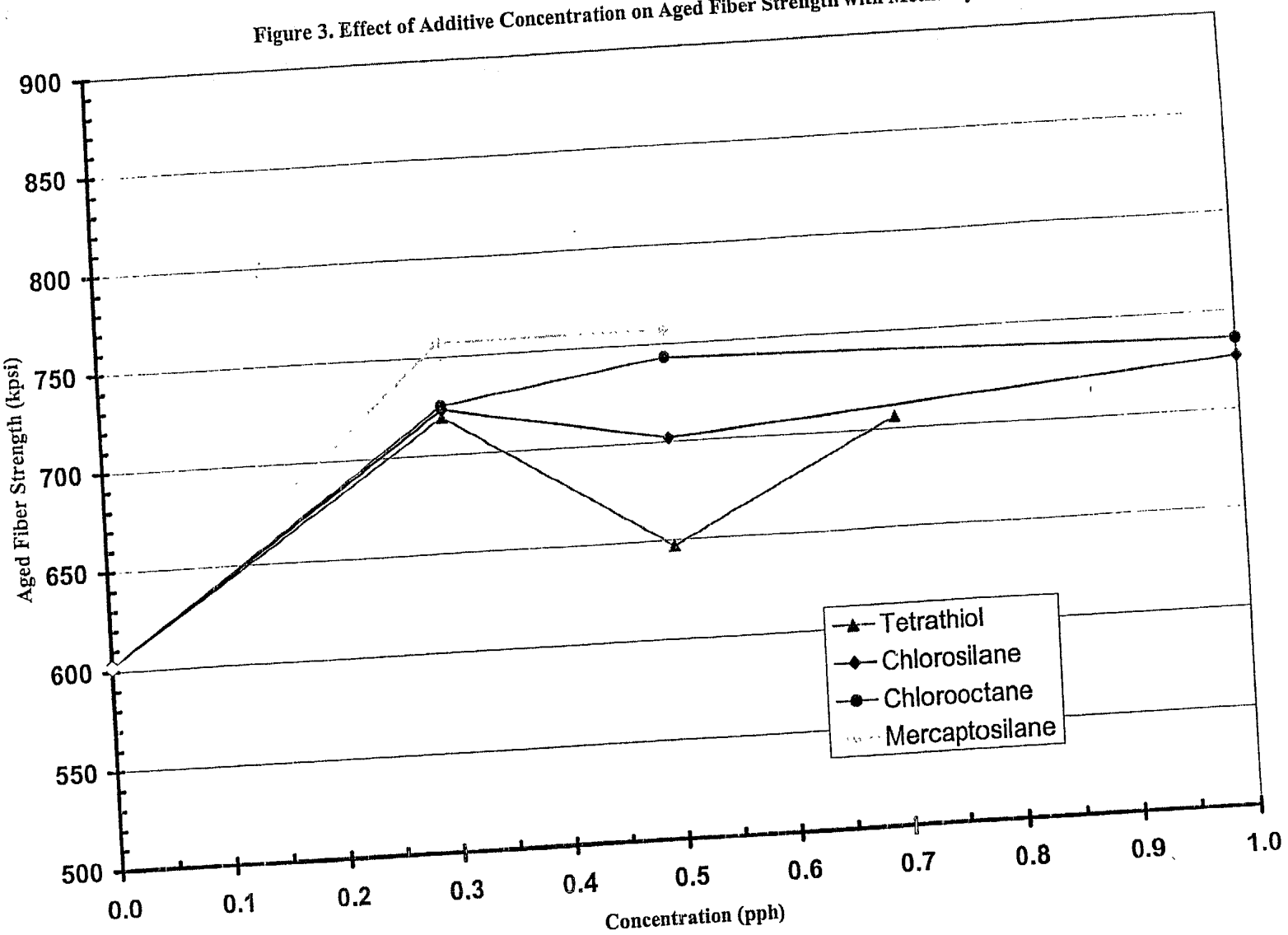


Figure 4. Effect of Additive Concentration on Aged Fiber Strength with Bis Silane

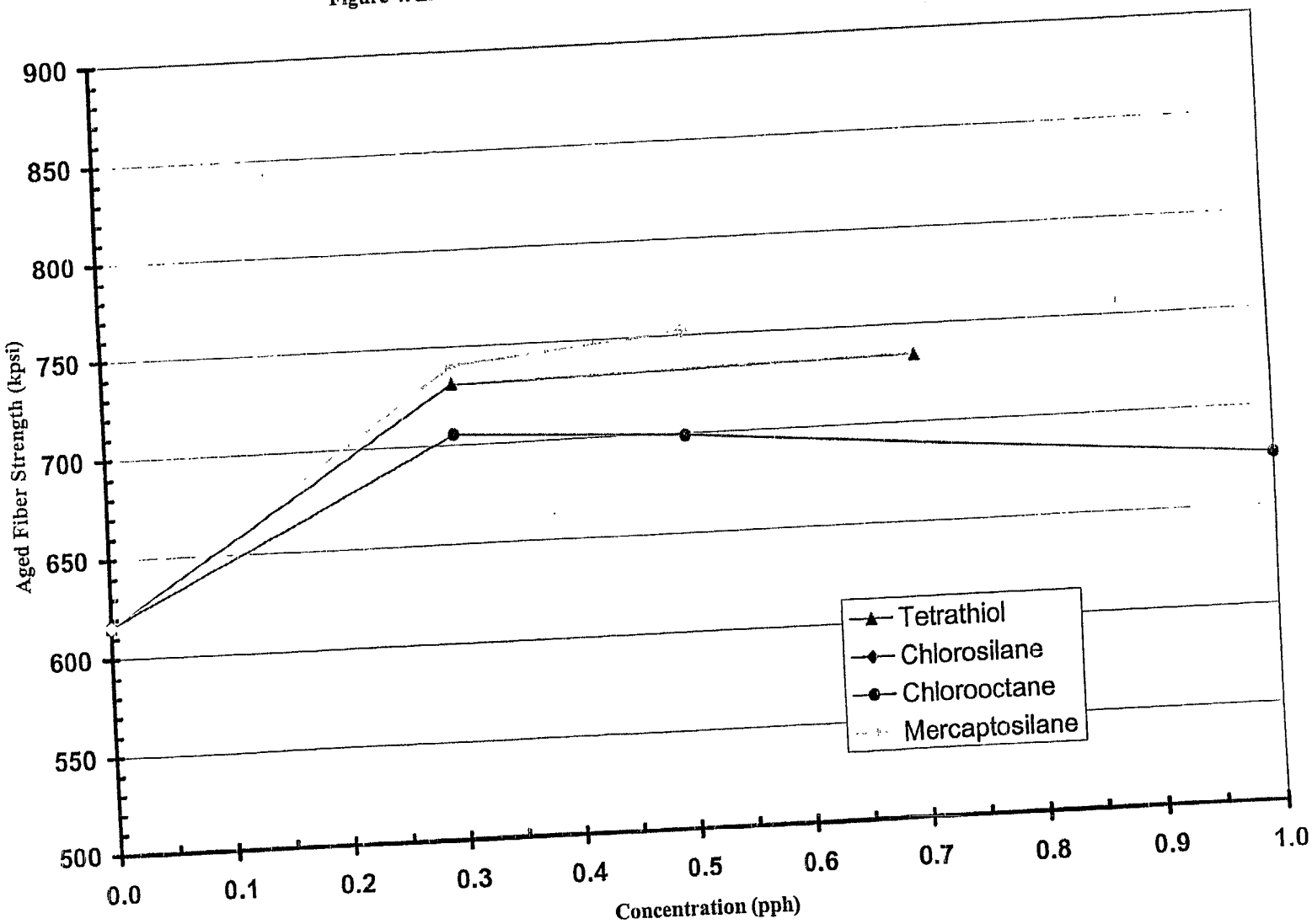
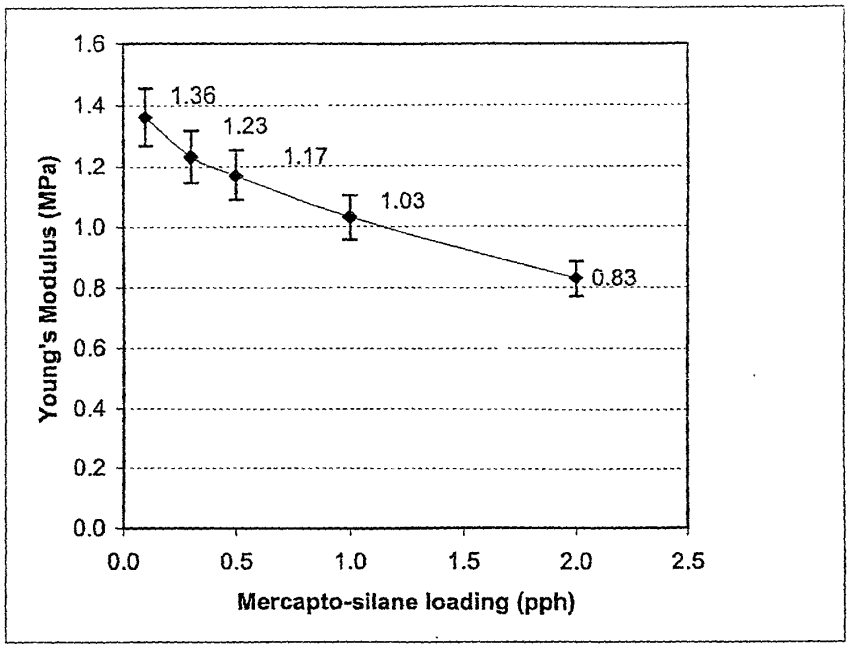


Figure 5. Plot of Young's Modulus as a Function of M[illegible]tepropyltrimethoxysilane Concentration.



Error bars indicate a 7% coefficient of variance for the modulus measurements.

5

Figure 7. Plot of Young's Modulus as a Function of Cysteine Concentration

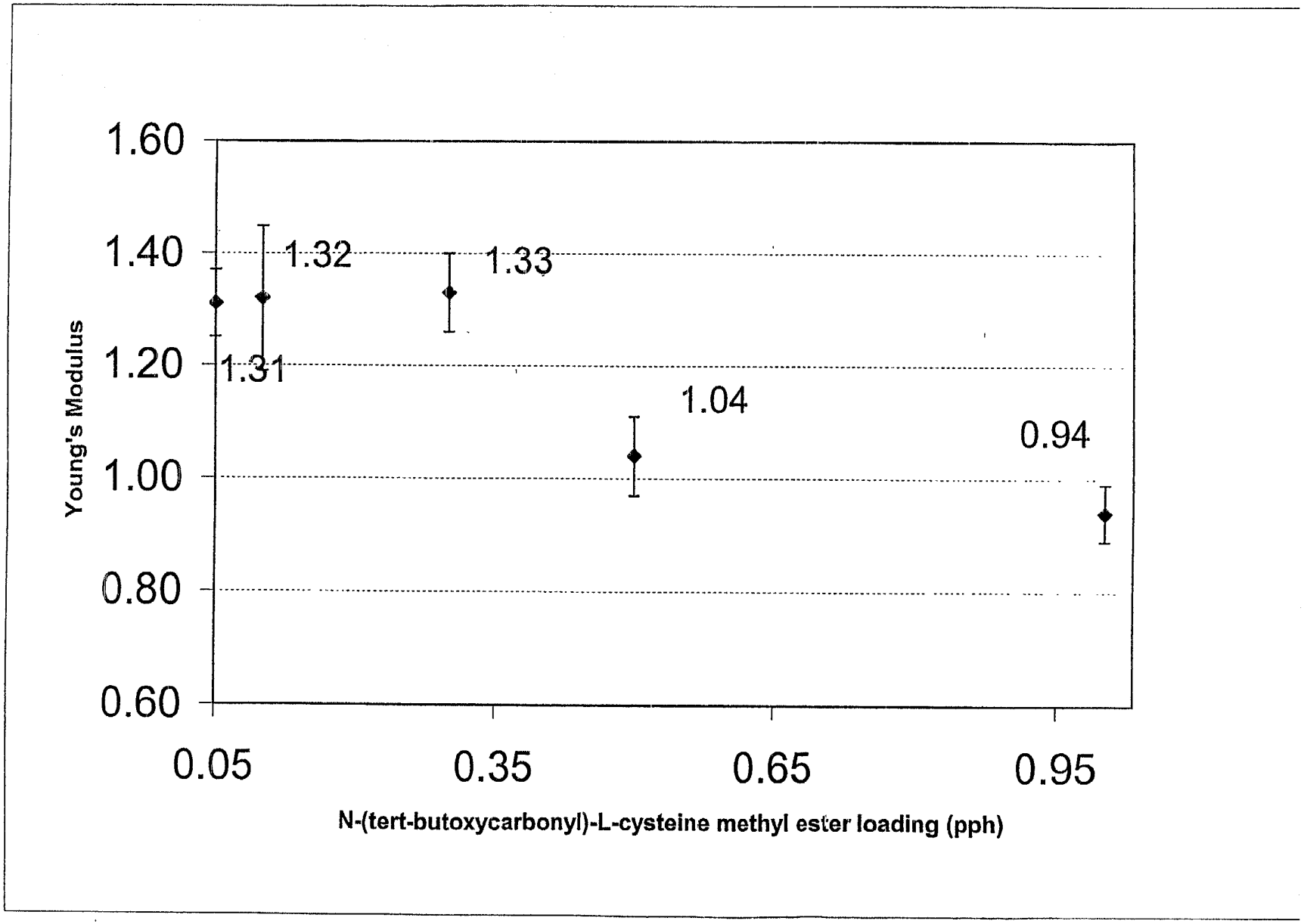


Figure 7. Plot of Young's Modulus as a function of Tetra-thiol Loading

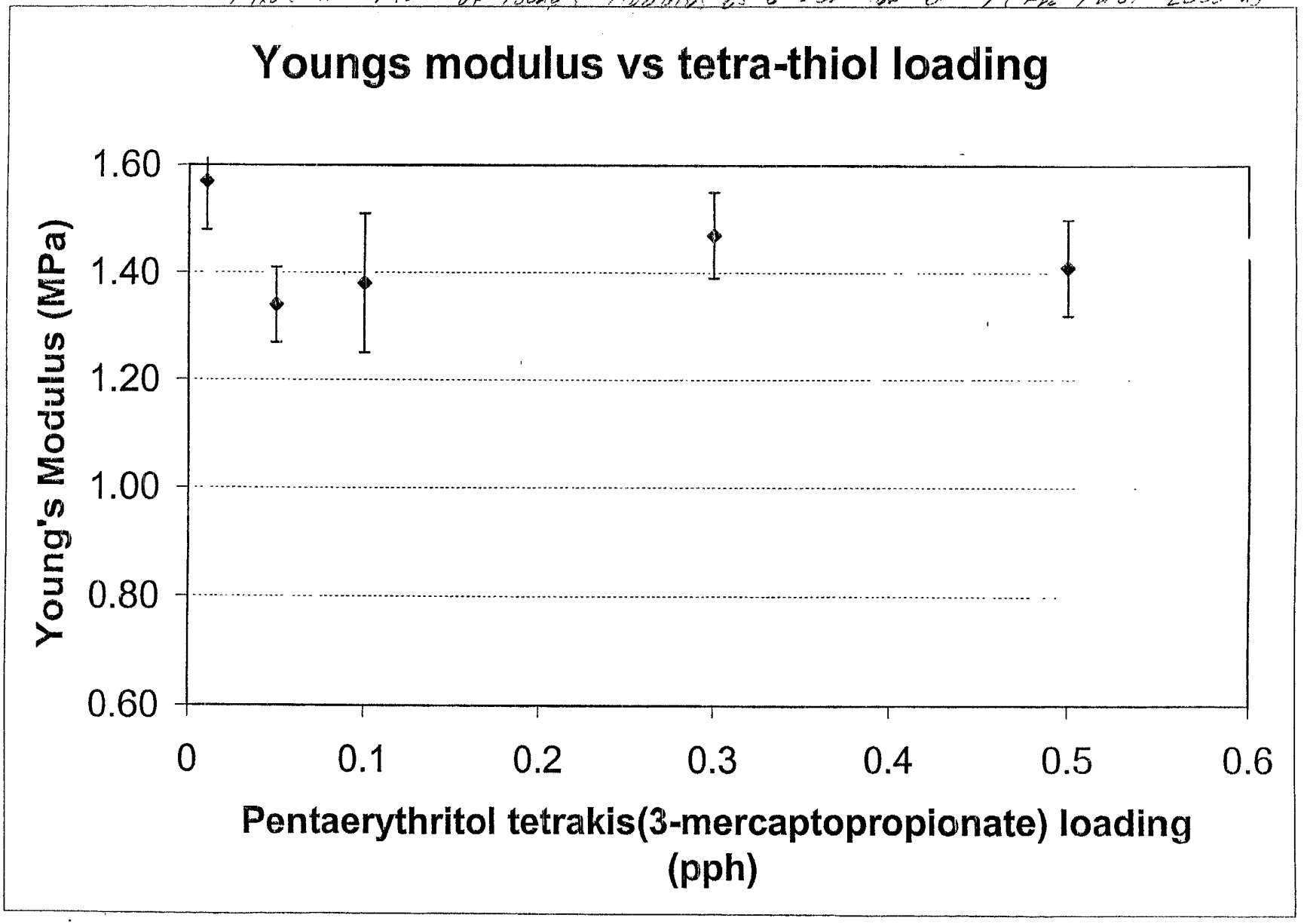


Figure 8. Relative Cure Speed as a Function of Mercaptopropyltrimethoxysilane Concentration.

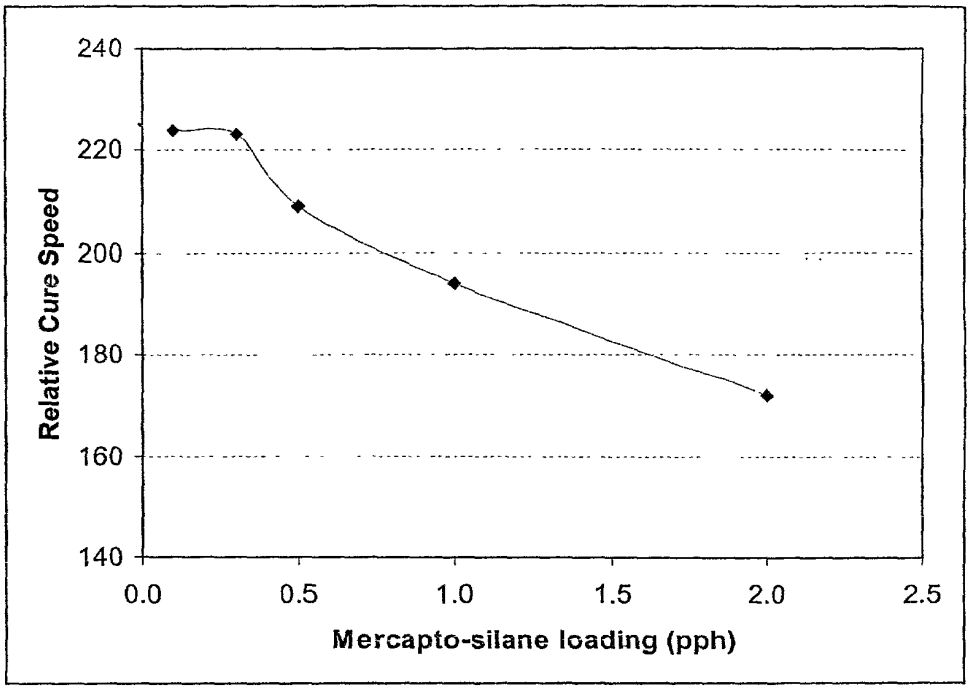


Figure 10. Relative Cure Speed as a Function of Cysteine Concentration

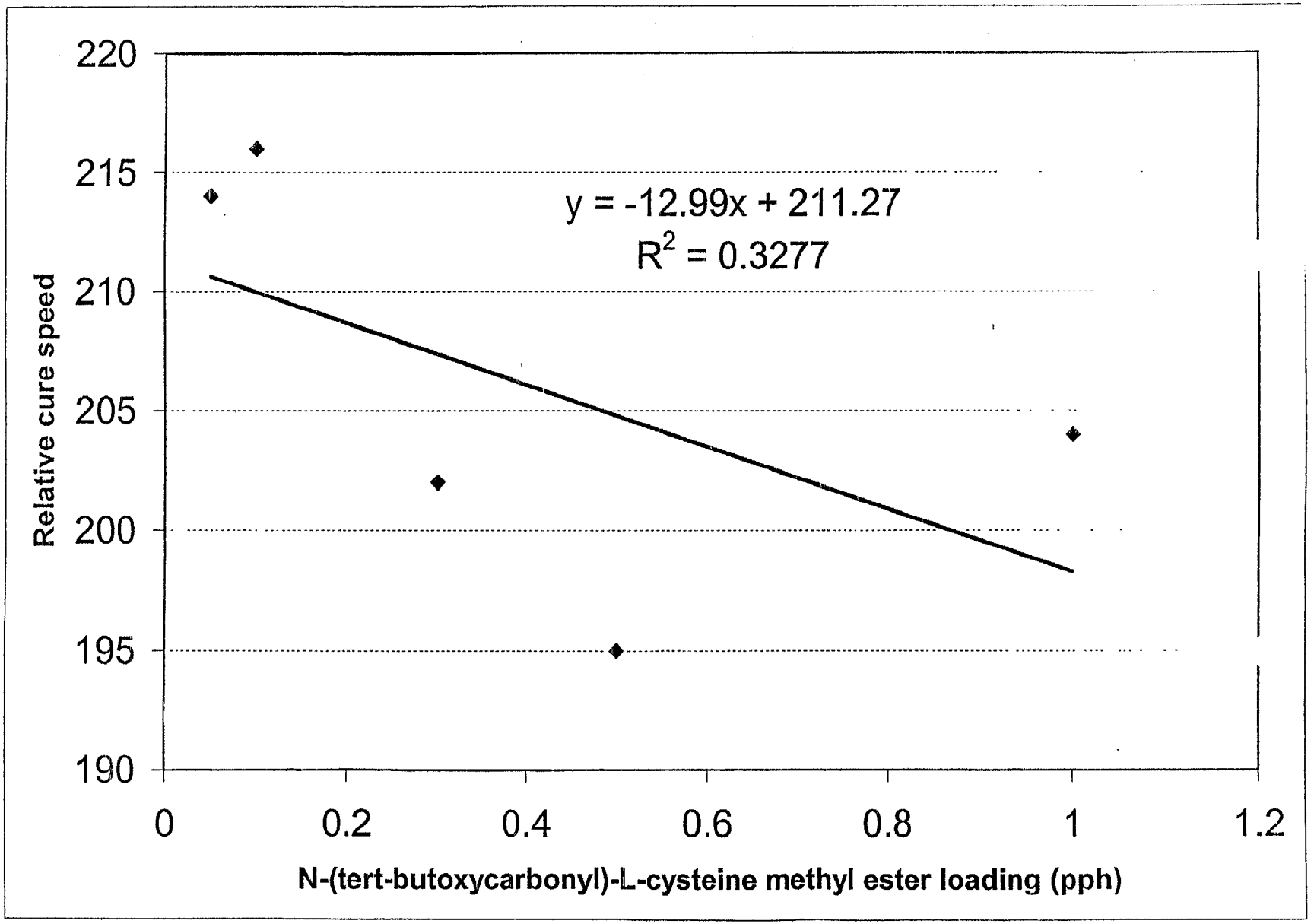


Figure 10. Relative Cure Speed as a Function of Tetra-Thiol Concentration

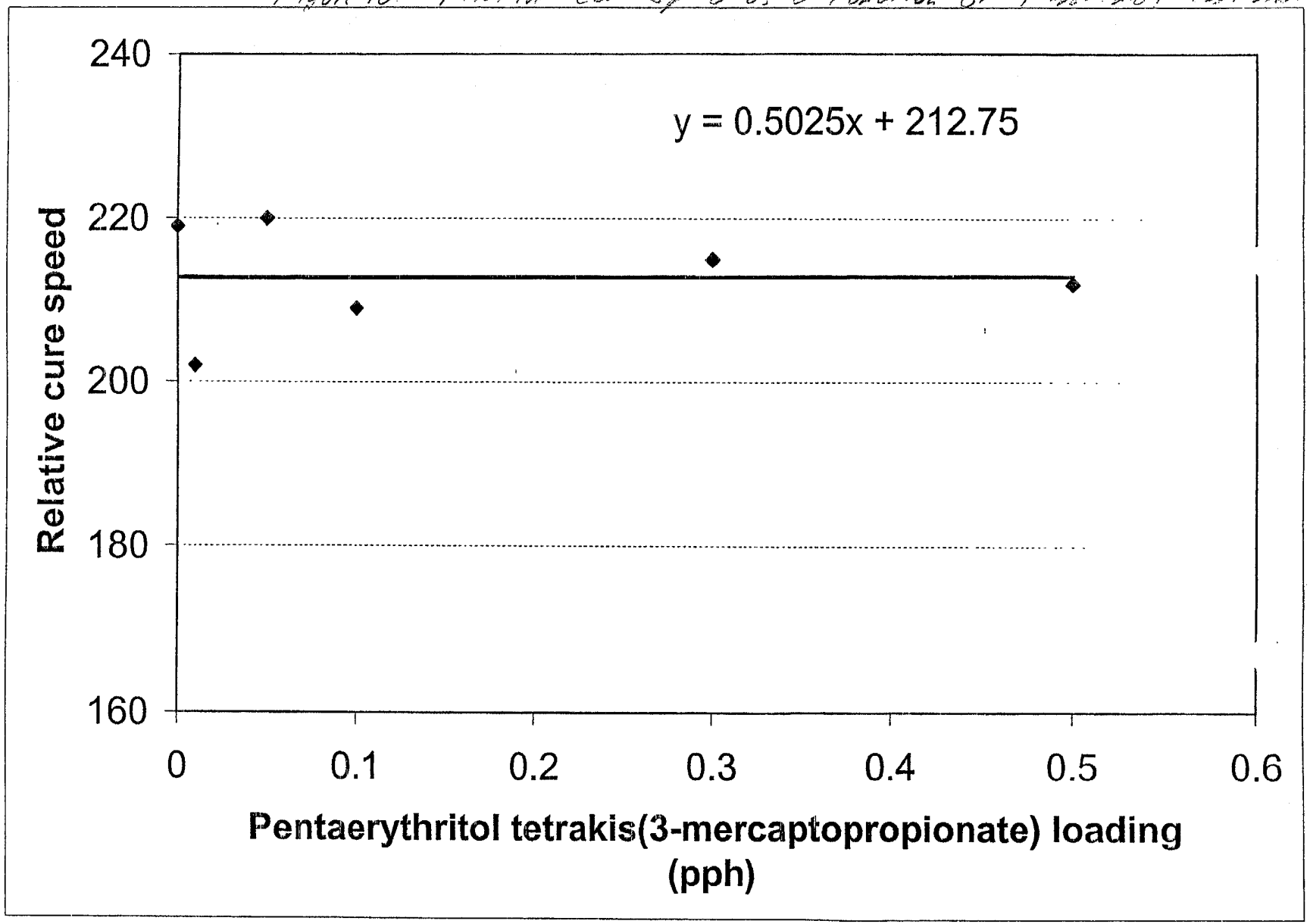
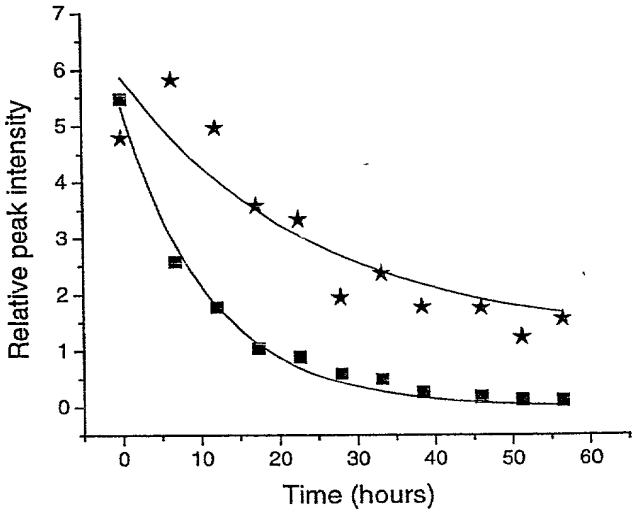
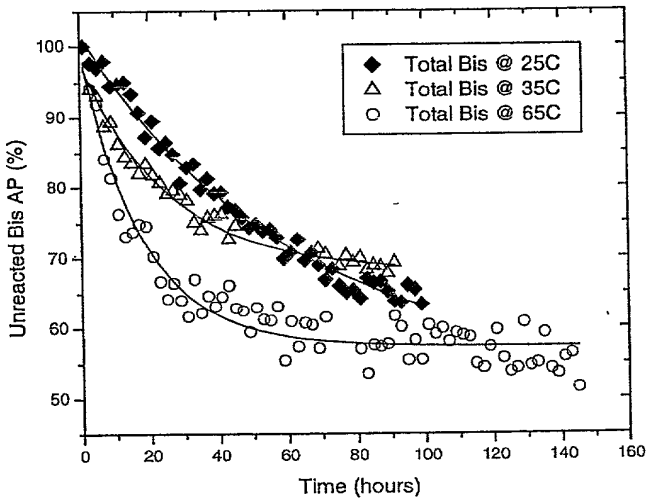


Figure 11. Plot of relative peak intensity of the four major Bis-silane isomers as a function of reaction time in THF, water and acid.



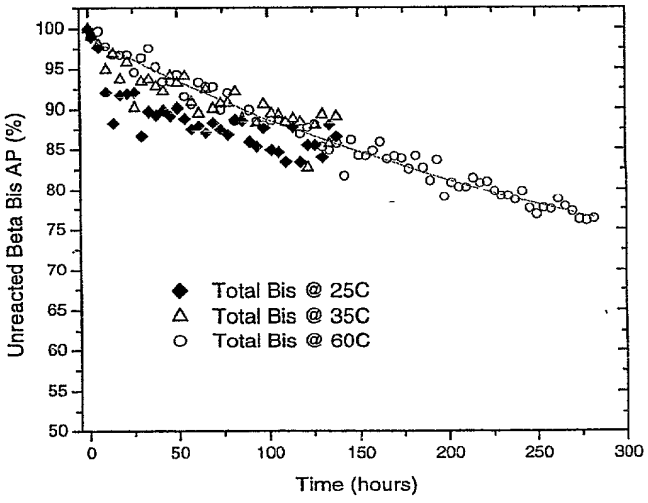
■ denote Bis-silane solution (control) and ★ denotes Bis-silane with Mercapto-silane solution (test), respectively. Solid curves represent first-order exponential decay fits to the experimental data.

Figure 12. Total Bis-silane concentrations for coating 122 (control coating), as determined by ^{29}Si NMR measurements at 25, 35 and 60 ºC.



Solid curves represent exponential decay fits to the data.

Figure 13. Total Bis-silane levels in coating 124 (test coating) as determined by in-situ ^{29}Si MAS NMR measurements at 25, 35 and 60 °C.



The curve represents the first-order decay behavior of the data at 60 °C.